

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the above supplemental amendments and following remarks and discussion is respectfully requested.

Claims 16-23 are pending in this application. By this supplemental amendment, Claim 16 is amended; Claims 21-23 are added; and no claims are cancelled herewith. It is respectfully submitted that no new matter is added by this amendment.

Applicants appreciate the courtesies extended to Applicants representative during the personal interview held November 1, 2007. Applicant's statement of substance of the personal interview is incorporated into the above amendments and following remarks.

In the outstanding Office Action, Claim 15 was rejected under 35 U.S.C. § 112, second paragraph for being indefinite; Claims 11, 12 and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,192,827 to Welch in view of JP 11-037315 to Osaka; Claim 13 was rejected under 35 U.S.C. § 103(a) as unpatentable over Welch, Osaka and further in view of U.S. Patent No. 5,242,538 to Hamrah; and Claim 14 was rejected under 35 U.S.C. § 103(a) as unpatentable over Welch, Osaka, and further in view of U.S. Patent No. 5,788,799 to Steger.

With respect to the rejection of Claim 15 under 35 U.S.C. § 112, second paragraph, this issue was addressed by the amendment filed September 11, 2007. Withdrawal of the rejection under 35 U.S.C. § 112, second paragraph is respectfully requested.

With respect to the rejection of the claims under 35 U.S.C. § 103, those rejections are respectfully traversed. Applicants submit that the applied art does not teach or suggest an inner surface of the deposit shield formed into a smooth curved side surface, a notch portion, a shutter formed to match the notch portion and make a same curved surface as the curved side surface, and when the shutter matches the notch portion, an inner surface of the shutter

and the inner surface of the deposit shield make a similar curved surface so that the inner surfaces are formed on a same plane, as recited in Claim 16.

Instead, Welch discusses in column 7, lines 22 to 38 and Fig. 10, that the gap dimensions 88 and 90 are formed so as to inhibit generated plasma from moving into the trans passage. As can be clearly seen in FIGs. 8-10, a passage door 60 and upper and lower chamber liner portions 94 and 96 do not touch each other in order to prevent generation of particles that results from the contact between these members. Further, a large gap exists between the liner inner wall portions 94 and 96 and the door 60, as shown in Fig. 10. Even further, a large gap exists between the door 60 and an inner surface of the liner portions 94 and 96 that faces the interior of the processing chamber.

The deposit shield of one or more examples of the present invention has such a structure that the entire body thereof is housed in the chamber, see Fig. 6, and thus at least the side wall surfaces thereof on the chamber side are covered. When the shutter is closed to abut against the notch portion of the deposit shield, minimal irregularity is made in the inner wall surface of the deposit shield, creating a smooth plane, as best shown in Figs. 8B and 9. A function of the deposit shield is to inhibit the irregularity on the surface to be exposed to plasma, and thus the density of plasma is made uniform. Accordingly, Claim 1 is amended to recite that an inner surface of the shutter and the inner surface of the deposit shield make a similar curved surface so that the inner surfaces are formed on a same plane. This feature is not taught in the applied art.

Further, in Welch, there is a difference in level between the inner surface of the vacuum chamber 34 and the surface of the passage door 60 as shown in Fig. 5. With this level difference, it is not possible to make the plasma density uniform. The above-described drawback is mentioned in the present specification as an object to be solved. An object of one or more examples of the present invention is to provide a deposit shield devised to

prevent irregularities in the surface exposed to plasma. As discussed above, the advantages provided by the features of the claimed invention cannot be achieved by the applied art either alone or in combination.

The spiral seal as recited in Claim 16 functions as an elastic member used when the shutter is opened or closed. As such, the involved members are connected to each other in an electrically uniform fashion to inhibit the leakage of plasma. Moreover, an O-ring as set forth in the claimed invention is provided on an end surface of the shutter and on an inner side (the vacuum processing chamber side as shown in Fig. 8A) by means of the spiral seal. This structure prevents metal particles generated from the spiral seal from dispersing to the processing area. The above-described advantageous effect of the present invention cannot be obtained even if the applied art is combined together.

New Claims 21-23 recite features with respect to the end portions of the notch and complimentary portions of the shutter. New Claims 21-23 define patentable subject matter for at least the reasons discussed above as well as for the additional features they recite.

Withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is respectfully submitted.

Consequently, for the reasons discussed in detail above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below listed telephone number.

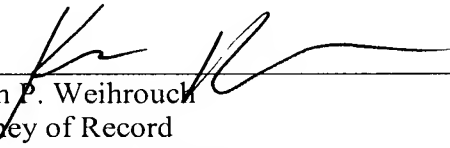
Respectfully submitted,

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